

REMARKS/ARGUMENTS

The Application has been carefully reviewed in light of the Office Action dated March 2, 2004. In response, Applicant has amended the specification so as to be arranged in U.S. format, include an Abstract Of The Disclosure, and correct certain translation idiosyncrasies and misspellings. Amended drawings are also submitted herewith. In addition, claims 2-32 have been amended to conform to U.S. practice. In light of the following remarks and arguments, Applicant believes that the present application is now in condition for allowance. Re-examination and reconsideration of the application, as amended, is respectfully requested.

DRAWINGS

A substitute "formal" set of drawings is submitted herewith, which is believed to overcome the objection in the above-identified Office Action.

SPECIFICATION

In the specification arrangement has been modified so as to conform to U.S. practice. As discussed above, an Abstract Of The Disclosure has also been added. On page 2, line 6, "rotor position indicator 32" has been revised to "rotor position magnet", which Applicant deems a suitable definition and description of the structure. The structure is functionally a rotor position indicator, thus being a multipolar permanent magnet secured to the rotor. It gives switching signals for Hall sensor 31 according to the rotor position.

With respect to page 3, line 17-18, "fig. 5" has been replaced with "fig. 3", which apparently was a translation error.

On page 6, line 19, both reference numerals 36 and 37 represent levers. Lever 36 is described as a bi-stable left/right selection lever. It is

represented by two arrows delimiting an angle, these arrows showing end positions corresponding to the word bi-stable. This part is similar to the left/right (clockwise-counterclockwise) selection lever of a power drill. Lever 37 is a progressive shifting lever secured to the movable Hall sensor 31, and corresponds to the power control trigger of a power drill or the like.

In the specification, various translation and spelling errors have been corrected, and words in quotations have been revised to conform to U.S. practice. The phrase "fat line" refers to the thicker or fatter lines in the illustrations. Applicant, to be responsive to the Office Action, has replaced the phrase "fat line" with "thick" or "thicker" line. Applicant believes that one of ordinary skill in the art, when reviewing the drawings and reading the specification would clearly understand what is meant by this phrase.

No new matter has been added to the specification.

CLAIM OBJECTIONS/REJECTIONS

Claims 3-32 were rejected as being an improper multiple dependent claim form. Applicant has amended claims 2-32 to overcome this objection, and place the claims in U.S. practice format.

Claims 1 and 2 were rejected under 35 USC § 102(a) as being anticipated by Lungu (U.S. Patent No. 6,262,501). The Examiner referred to Figures 6a and 6b as well as column 4, lines 50-53 and column 11, lines 4-6 in support of this proposition.

For a prior art reference to anticipate in terms of 35 USC § 102, every element of the claimed invention must be identically shown in a single reference. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990). That is, there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the

field of the invention. *Scripps Clinic & Research Foundation v. Genentech, Inc.*, 927 F.2d 1565, 18 USPQ2d 1001, 18 USPQ2d 1896 (Fed. Cir. 1991).

Although the Lungu '510 reference and the present application are very similar to one another because they refer to a very similar, the present application is directed to a new method of power control directly applicable to the power part of the motor of the '510 patent. The '510 patent, in Figs. 6a-c, represent motors without any power control whatsoever. Figure 6e of the '510 patent is related to a power control through reduced duty cycle of power switches 21. However, in Figure 6e of the '510 patent, it is clear that between the locking of the power switch 21X and the switching on of the power switch 21Y, the self-induction voltage U_a is being led through the power transistor 211 to the + bar, thus shorting circuit of the diodes 22, which cannot conduct any current during this lapse of time. This phenomenon also makes necessary the presence of power transistors 211, which the present invention eliminates, as described in the Specification.

The present invention, as claimed in claims 1 and 2, resides in a method of controlling the speed and power of the motor by controlling the power switches 21, meaning only the logic and not the power circuits of the motor. The cited '510 patent is directed to the constitution and the electromagnetic phenomena of the basic motor without power control and is not relevant to the method of power control of the present application. The Examiner will note that the applicant of the present application is the inventor in the '510 patent and thus is very familiar with this patent disclosure. The present invention is intended to overcome the more complicated power control method illustrated in Figure 6e of the '510 reference. Until the present invention, it was not possible to perform power control just by logic means.

Column 11, lines 4-6 of the '510 patent refers to disconnection of a winding, via the electronic logic, in this switching-on (possible after a predetermined delay) of the following winding. However, this represents

only a general statement of the possibility of making a power control function by reducing the duty cycle of the windings. This possibility is well known from other state of the art motors. This "predetermined delay" does not refer to any angular position of this delay referred to as the phase angle, recited in claims 1 and 2.

Figure 6e merely discloses power control using supplementary power switches, which was known in the art. The present invention eliminates the need for such power switches 211.

Regarding claim 2, Figure 6b of the '510 patent merely describes the constitution and the electromagnetic phenomena of the basic motor without power control. Applicant does not believe that this is a proper basis for rejecting the claims of the present application which are directed to a method for controlling the power without supplementary power switches and based upon a power control by logic means. Claim 2 clearly refers to "a method wherein between the locking of the power switch (21X) of a phase (X) and the current conducting phase of the switch (21Y), the self-induction voltage U_a which rises by the switching off of the phase (X). . . is supplied over a by-pass diode (22) to a phase (Y, X, Y). . ." The '510 reference does not refer to any delay between the switching off of a phase and switching on of the following phase.

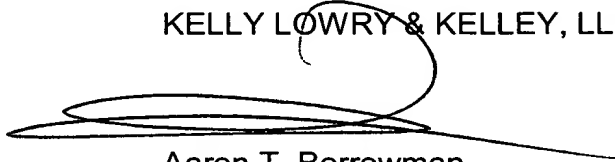
As discussed above, the '510 patent requires the self-induction voltage U_a to be led through the power transistor 211 to the + bar between the locking of the power switch 21X and the switching on of the power switch 21Y, shorting the circuit of the diodes 22, which cannot conduct any current during this lapse of time. This phenomenon makes necessary the presence of the power transistors 211. There is no discussion for teaching whatsoever of supplying the self-induction voltage U_a over a by-pass diode by switching off the phase of (X) to a phase (Y, X, Y).

Thus, applicant respectfully asserts that every element of the claimed invention is not identically shown in the '510 reference. Moreover, those of ordinary skill in the field of the invention would view significant differences between the claimed invention and the '510 reference. Accordingly, applicant respectfully submits that the claims of the present application are not anticipated by the '510 reference and that the rejection is improper and should be withdrawn.

Due to the foregoing amendments and remarks, applicant believes that the present application is now in condition for allowance, notice of which is hereby respectfully requested.

Respectfully submitted,

KELLY LOWRY & KELLEY, LLP

A handwritten signature in dark ink, appearing to read 'Aaron T. Borrowman', is written over a horizontal line. The signature is stylized with a large loop at the end.

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